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LANDSCAPE TYPOLOGY AS A BASIS FOR SOUND LANDSCAPE PLANNING

Introduction

Each scientific discipline tries to classify the study object of its interest. In case of landscape ecology (and other disciplines dealing with landscape) the subject of the study is the landscape as a dynamic complex spatial system. Moreover the landscape system is very changeable in the time. That is why the landscape classification represents a difficult but necessary task for landscape scientists. Landscape mapping and classification is one of the chief aims of geography and land ecology. It is important both from theoretical (as basic research) and practical points of view. A core of practical applications of landscape typologies and classifications consists in a wide spectrum of methods of landscape planning, assessment, evaluation and management. The main idea is that different landscape types and regions have a need of specific methods of landscape planning and management. Because of different and often conflicting goals of competitive activities such as agriculture, urbanisation, tourism, international transport and environment, there is a need for integral landscape planning both on national and European levels. Landscape typologies and classifications have very close relations to landscape character assessment and protection. The regional diversity and uniqueness of landscapes form collectively a common European natural and cultural heritage (after Meeus, 1995).

Diversity and richness of European landscapes

A great variety of regional and national landscapes within Europe have been developed and created as a result of the long-term interactions between nature and culture. The particular richness and diversity of rural landscapes in Europe is a distinctive feature of the continent (Meeus, 1995). European landscapes have a long positive association with agriculture. The mosaic of agricultural landscapes represents an attraction for visitors. Differences in occupation and production, composition of planted crops and ways of farmers practice have resulted in regional and cultural distinctive landscapes. Every region is characterized by its allocation, vegetation, buildings and infrastructure. The different types of landscapes which man has fashioned both bear witness to our history and provide refuge for numerous plant and animal species. The state of the landscape is a fragile expression of natural conditions,

regional culture and local identity. Therefore it is important to respect and reflect the different character in landscape planning (Wijermans, 1992).

The large diversity of landscapes chiefly at the European level must be considered as a key methodological challenge when assessing the vulnerability and resilience of terrestrial ecosystems with regard to pressures from and use and land cover changes. The objectives of a sound landscape research and assessment are to develop reliable indicators and a geographic reference base allowing to distinguish different landscape types and to assess them from the point of view of their harmonised planning, management and protection especially as to their outstanding natural and cultural values.

The first attempt to develop a basic Pan-European classification of present cultural landscapes is represented by Meeus (1995). Combining climate and vegetation (using Holdridge diagram of vegetation types associated with different combination of evaporation and precipitation) with geomorphology, land use and landscape scenery (the openness or degree of closure of the scenery), 30 basic landscape types are distinguished in rural Europe. Urban and industrial landscapes as well as coastal and river linear landscapes have been purposefully excluded from this typology.

This elementary typology of rural European landscapes and their geographical distribution across Europe is illustrated on the map of small scale about 1:25 million. The landscapes vary from open fields and steppe landscapes to enclosed forest and hedgerow landscapes. In total, eight broad categories of landscape types are defined in Europe:

- tundras
- taigas or forest landscapes
- uplands
- bocages or enclosed landscapes
- open field landscapes
- steppes and arid (desert and semi-desert) landscapes
- regional landscapes (like kampen, coltura promiscua, dehesa or Poland's strip fields)
- artificial landscapes (like polder, delta, huerta and terraces)

The comparison and main characteristics of 30 Pan-European landscapes by Meeus (1995) are listed in Table 1.

Landscape type	Landform	Vegetation	Character	Trends
<i>Tundras</i>				
1 Arctic tundra	Lowlands covered by ice and snow	Permafrost keeps vegetation scattered and low: moss/lichen	Desolate treeless wilderness	Wetland preservation
2 Forest tundra	Hills and lowlands bogs and fens	Dwarf shrubs (birch, alder) cover the valleys; heath everywhere	Wild, empty scattered forests	Fires and overgrazing
<i>Taigas</i>				
3 Boreal swamp	Peatland, mires, bogs and fens	Mixed, thin forests without production, only preservation	Inaccessible uncultivated wetlands	Drainage, extraction of peat
4 Northern taiga	Hills and plains, lowlands and lakes	Coniferous forest (pine, spruce) relics of grazed woodlands	Homogeneous forests	Clear felling, spruce becoming dominant
5 Middle taiga	Plains with sandy soils, moraines and mires	Mixed coniferous forests and some pastures or fodder crops	Some spaces within forests	
6 Southern taiga	Hills and plains of sand, silt and loamy soils	Mixed coniferous forests; pastures are in the minority	Semi-open forests	
7 Subtaiga	Outwash-plains and plateaus of loam/loess	Mixed broadleaved and coniferous forests and arable land	Silvi- and agricultural domination	Drainage and deforestation
<i>Uplands</i>				
8 Northern highlands	Hills and mountains, lakes, bogs and fens	Heath, grassland, rocks and relics of overgrazed woods	Desolate, rough and very open	Afforestation
9 Mountains	High mountains, glaciers, steep slopes and valleys	Moss, heath, grass and forest on slopes; intensive crops in valleys	Wild, rough, enclosed versus cultivated, open	Abandoning, afforestation and tourism
<i>Bocages</i>				
10 Atlantic bocage	Gentle slopes and plateaus of loam on rocks	Pastures and arable land surrounded by hedges, walls or trees	Enclosed, heterogeneous and cultivated	Plot enlargement and removing of hedges
11 Semi-bocage	Hills and middle mountains, wet conditions	Extensive grassland and crops, mixed forests and hedges	Hybrid open-enclosed	Abandoning and afforestation
12 Mediterranean semi-bocage	Hills and middle mountains, dry conditions	Extensive grass, arable and permanent crops, walls/forests	Relatively open	Extensification
<i>Openfields</i>				
13 Atlantic openfields	Loamy and clayey soils on undulating plains	Intensive arable land; trees only in valleys	Large-scale openness; monoculture	Intensification and set-aside
14 Continental openfields	Loess and loam on flat and hilly land	Mixed arable, grass and permanent crops; forests on hilltops	Diverse in scale	Diversification
15 Aquitaine openfields	Outwash plains and slopes of lime, loam, loess	Arable land on plateaus; forests on slopes; horticulture in valleys	Open and intensively cultivated	
16 Former openfields	Undulating plains with loamy and clayey soils	Land suited for arable crops, used for cereal, root crops, grass	Intensively cultivated; large-scale openness	Removing of trees on plots
17 Central collective openfields	Undulating plains with loess and loamy soils	Arable land without any other vegetation; pastures on lowlands	Large-scale, open and homogeneous	Water and wind erosion
18 Eastern collective openfields	Flat to undulating plains covered with 'black earth'	Treeless arable land and grass on moist lowlands	Extremely open, large and dry	
19 Mediterranean open land	Hills, plateaus, valleys, water-limited conditions	Forests and scrub v. cultivation: extensive crops and transhumance	Contrasting patterns between hills and valleys	In- and extensification, abandoning
<i>Steppe and arid landscapes</i>				
20 Puszta	Salt-affected soils on the Hungarian plain	Grassland and arable land	Treeless open space; extensive breeding	Salinisation, water and wind erosion
21 Steppe	Plains with brown earth, valleys and saltmarshes	Grassland and arable land, extensively cultivated	Treeless, dry, endless, windy, extremely open	Overgrazing, salinisation
22 Semi-desert	Lowland plains and saltmarshes	Grass, ephemeral and halophytic plants	Salt, dry, open and extensively cultivated	Changing levels of groundwater and sea water
23 Sandy desert	Mobile dunes, dry rivers and shifting sands	Absence of vegetation; only some ephemeral plants, sedges	Uncultivated	Pastoral husbandry protection
<i>Regional landscapes</i>				
24 Kampen	Undulating plains with brooks and sandy soils	Mixed crops, grassland; forests, heath, swamps and trees	Enclosed fields, mosaic, small-scale patchwork	Increase of scale and intensification
25 Poland's strip fields	Small elongated field systems	Mixed crops, horticulture, orchards and forests	Labour-intensive, small-scale diverse	
26 Cultura promiscua	Fertile valleys; loamy soils, remnants of traditional use	Three layers of permanent crops, cereals, horticulture, fodder crop	Heterogeneous and small-scale diverse	Homogenisation by in/extensification
27 Dehesa/montado	Poor, dry and stony soils on erosive, gentle slopes	Open evergreen forest (oak, olive), grazed and cultivated	Agro-silvo-pastoral parkland	Degradation; growth of shrubs
<i>Artificial landscapes</i>				
28 Polder	Estuaries on North Sea coast below sea level (clay, peat)	Intensive arable and grassland; trees along roads, canals, dikes	Flat, open, fertile, artificial and uniform	Intensification, set-aside
29 Delta (artificial forms)	Estuaries in coastal lowlands; deltas of large rivers	Intensive arable, fodder and permanent crops on irrigated fields	Intensive, flat, open, fertile and uniform	Salinisation and intensification
30 Huerta	Irrigated, fertile valleys on Mediterranean coast	Intensive horticulture and permanent crops (eg. fruits)	Irrigation, terraces, orchards	Expansion

Table 1.
Pan-European landscape types after Meeus (1995)



Because the increasing demand for more detailed and high-accuracy landscape typology and map at the European level in the beginning of the 3rd Millennium, a new approach has been developed in the research centre Alterra, Wageningen (Mücher et al., 2003). The typology is based on combining of different layers of the most recent geographical data using GIS as a new scientific method of exact and objective landscape classification. The strategic objective was to use high quality data of European coverage. After a critical review of the main European environmental data sets, 3 core layers were selected for the delineation of landscape types:

- Topography ((GTOPO30, grid data, 1 km resolution)
- Soil and geological substrate/Parent material (European Soil Data Base 1: 1 million, vector data)
- Land use/Land cover (CORINE Land Cover database, vector data, 1: 100 000)

These 3 data layers chosen as key parameters and readily available at the European level reflect the fact that present European landscapes are a product of natural and cultural driving forces. Three core data sets determine the matrix for a European Landscape Map. The final typology resulted in a digital map consisting of 202 types of the present cultural landscapes in Europe. Each landscape type has got a 3-digit code: the first capital letter is used for the topographic class, the second capital letter for the parent material and the third letter (undercast) for the land use/land cover class. As an extra attribute the environmental zone (e.g. Alpine, Atlantic, Continental, Pannonian etc.) has been attached to each landscape mapping unit. For the urban landscapes as well as inland waters and estuaries the information was derived directly from the CORINE Land Cover database and each of these categories has got its own extra code (Table 2). A limiting factor is the fact the land use history as well as detailed landscape structure indicators like patch size and density, connectivity, shape and edge metrics have not been considered in the classification.

This new European landscape typology and map represents a progress in landscape classification done during last 10 years from the Meeus' es typology, especially as to scientific database and exact GIS method used to select landscape types and their boundaries. However, regardless of the typology looks well for the Pan-European level it can be found rather rough on the national level particularly in some parts of Europe. It is a reason why the current landscape classification was being distributed and revised by national experts during last year. The typology should serve as a common reference framework for future landscape mapping activities, for landscape character assessment, strategic landscape planning, monitoring and modelling of landscape changes. On the national and regional levels the same methodological approach can be applied but typologies can be more detailed.

Topography	Definition	Name	Code
	1 0-100 m	Lowlands	L
	2 100-500 m	Hills	C
	3 500-1500 m	Mountains	M
	4 1500-2500 m	High Mountains	H
	5 2500 + m	Alpine	A
Parent material	Definition		Code
	1 River and marine alluvium		A
	2 Glacio-fluvial deposits		I
	3 Calcareous rocks		C
	4 Soft clay materials		L
	5 Hard clay materials and siltstones		H
	6 Sands		S
	7 Sandstones		R
	8 Soft loam		T
	9 Detrital formations		D
	10 Crystalline rocks and Magmatites		G
	11 Volcanic rocks		V
	12 Other rocks		X
	13 Organic materials		O
Land cover	Definition		Code
	1 arable land		a
	2 permanent crops		p
	3 pastures		g
	4 heterogenous agriculture		h
	5 forest		f
	6 shrubs		s
	7 open spaces		b
	8 wetlands		w
Extra codes	Definition		Code
	Non-classified		6000
	Urban		6001
	Inland waters		6002
	Estuaries and Lagoons		6003

Table 2.

Coding system for European landscape typology based on 3 core layers: topography (DTM- digital terrain model), parent material (PM) and land use/land cover (LC) - after Mücher et al., 2003

Landscape typology and the European Landscape Convention

The most important recent policy initiative concerning landscape - the European Landscape Convention - is the first international treaty to be exclusively concerned with the protection, planning and management of European landscapes. The Convention was adopted by the Council of Europe's Committee of Ministers on 20 October 2000 and opened for signature during the ministerial conference on landscape protection in Firenze, Italy. It entered into force in the 1 March 2004. The importance and need for landscape classification and typology has been stressed in the Article 6, Part C "Landscape Identification and Assessment" of the Convention:

"..... each Party undertakes:



- a) 1) to identify its own landscapes throughout its territory
 - 2) to analyse their characteristics and the forces and pressures transforming them
 - 3) to take note of changes
- b) to assess landscapes thus identified, taking into account the particular value assigned to them by the interested parties and population.

These identification and assessment procedures shall be guided by the exchange of experience and methodology organised between the parties at European level."

Article 2 of the Convention says:

"The Convention applies to the entire territory of the Parties and covers natural, rural, urban and peri-urban areas. It concerns landscapes that might be considered outstanding as well as everyday and degraded landscapes."

This is very important point. It is clear that the obligation to have the whole country covered by landscape typology follows from the Convention. While a number of other policies require reliable and targeted information on the state and trends of European landscapes, it is especially the European Landscape Convention that requires the Parties to carry out research in order to identify landscapes and analyse their characteristics and pressures affecting them.

Landscape classification/typology and landscape character assessment; the European project ELCAI (European Landscape Character Assessment Initiative)

Every landscape can be characterised in two different ways:

- 1. To point out distinctive individual features distinguishing the landscape from others; this way is used to determine and map unique, individual landscapes occurring in unique areas and nowhere else. It results in landscape regionalisation.
- 2. To search for general features distinguishing the landscape from the surroundings however uniting it with landscapes of similar features, which can occur separately also elsewhere. It results in landscape typisation (Lipský, 1998).

It is also possible for the mapping and definition of single units to precede the development of landscape typology. Both typology and regionalisation could be hierarchical using different mapping scales, from local to regional, national and European scale. Because of diverging connotations that are attached to landscapes, a typology must be multi-thematic. It contains natural, cultural, spatial and dynamic elements coming together in the expression of the landscape.

Many European countries have developed their own landscape typologies on national or regional levels. Landscapes can be basically divided into natural and cultural types. It seems to be relatively easy to classify natural landscape types formed exclusively by natural forces without any human activities. Maps of natural landscape types based on combination of geology, soils, geomorphology, climate and potential vegetation have been elaborated for most European countries usually as a part of their national atlases. But we have to be aware of a thing natural landscape types expressed on these maps are hypothetical and do not exist in present Europe more (with small exceptions in Far North or in high mountains, as fragments in national parks and nature reserves). Even the Nordic tundra and taiga have been subject to some human impact.

The term cultural landscape characterises the distinctive interrelationships between nature and people and encompasses a large group of mostly rural landscapes (Meeus, 1995). Present cultural landscapes of Europe are a result of long-term interactions between natural and cultural forces. Moreover man activities and pressures of society on the landscape are very changeable in the time and cultural landscapes are changing very quickly in their features and landscape patterns. That is why landscape typology of cultural landscapes is much more complicated in comparison with natural landscapes. To classify cultural landscapes, it is necessary to take into account (at least) both primary (natural, biophysical) and secondary (cultural) landscape structures. Both these structures influence the physiognomy, character and appearance of the present cultural landscapes in a decisive way. Especially dynamic, changeable land use patterns play a decisive role in landscape typology in many European rural landscapes which are a result of centuries-old human impact. Also tertiary (spiritual) landscape structures like landscape history and memory which do not have a direct expression in landscape physiognomy are used in some landscape typologies and landscape character assessments.

We should mention concepts of "ephemeral landscape" (Brassley, 1997) and "transitional landscape" (landscape as a continuous process of energy and material flows which are permanently changing landscape structure, Björklund, 1996) here because they do justice to a thing the landscape could be extremely changeable in time especially as concerns some features and spatial patterns.

As complex socio-economic ecosystems with regionally distinct configurations of geomorphology, soil, water, vegetation and land use, present landscapes are the products of both human activities and natural processes driven by policies, demography, economy or climate change. The degree to which human activities and natural processes are interacting or have been interacting in the past determines the character of a landscape. Though the character of a landscape can be the object of human

perception and evaluation, character is not to be confused with the quality of a landscape which is mainly dependent on the functions that have been assigned to it (Wascher and Pérez-Soba, eds., 2004).

The need of landscape typology as a present topical issue of landscape science and its policy applications is recently reflected in the European ELCAI Project (European Landscape Character Assessment Initiative) solved in the framework of the 5th programme of the European Union. The main objectives of the project are as follows:

- to demonstrate the use of landscape character assessment (LCA) in Europe
- to provide a systematic review on state-of-the-art approaches to typologies and indicators of landscape character
- to provide examples on practical applications of these methods
- to analyse the policy framework for LCA
- to initiate stakeholders contacts to identify present and near-future needs for landscape typologies and LCA from landscape planners, conservationists, decision makers and managers
- to generate a core set of landscape indicators for wider policy implementation
- to identify needs for a future map of European landscapes by referring to existing national approaches and linking these to the international scientific and policy frameworks.

Landscape Character (LC) is defined as a distinct and consistent pattern of elements in the landscape that makes one landscape different from another. The elements of landscape depend on the combination of factors such as geology, land forms, soils, vegetation, land use, field and human settlement patterns. Factors may be considered in their past, present and/or future contexts. The interrelationships of biophysical (natural) and cultural factors are highlighted in this landscape character definition. Character can hence be seen as an expression of the way in which natural and cultural elements are combined in landscapes to create unique areas with specific ecological, economic as well as social functions and values (after Groom, 2003).

Landscape Character Assessment (LCA) comprises a set of tools that are scientifically sound, region-specific and stakeholder oriented, designed to describe the character of a landscape. It can result in one or both of following:

- landscape character types (these may be generic classifications or typologies)
- landscape character areas (these are single and unique areas).

Preliminary results of the ELCAI Project, Work Package 1 Review of the state-of-the-art of European LCA, confirm very close relations of landscape character assessment to landscape typology and classification. The results are

based on the analysis and synthesis of 49 distinct examples of LCA from 15 European countries. LCA as well as landscape typology is relevant and applicable independent of spatial scale. The assessment can be applied at a range of scales, from the national to regional and local. "Classic form" of LCA operation is one of definition of distinct landscape character types (i.e. a typology) with at least the potential for these types to be mapped on the basis of criteria used for their definition. LCA defines either unique geographical landscape units or more generic landscape character types, but it is also possible for the mapping of units with distinct landscape character to precede development of a typology.

Biophysical (natural), cultural (land use and other human influence on the landscape), perceptual and aesthetic indicators as well as opinion and expressions of stakeholders are used to make landscape character typology and mapping. The following categories of methods for derivation of landscape types and mapping units are used:

- expert interpretation (including for example fieldwork)
- expert interpretation and some automated analysis
- automated analysis
- automated analysis and interactive refinement (including for example field-based work and/or consultant input)
- interactive analysis (including for example fieldwork and/or consultations)

(after Groom, 2003).

The final product of characterisation is normally a map of landscape character types and/or areas, together with relatively value-free descriptions of the character and the key landscape characteristics. The characterisation of areas and types does not necessarily involve quality evaluations about them. The typology and mapping are often hierarchical with two or three levels, but there are also cases with four or even five levels. The development of levels is proceeded either "top-down" (starting with the largest spatial units) or "bottom-up" (from the smallest single units).

Another question concerns the coverage of a nominal area (country, region, catchment, large-scale protected area). In most cases the LCA exercise has taken a "full coverage" approach, i.e. the landscape character assessment is made for every part of the territory. Only in few cases the goal has been different, i.e. to undertake the LCA for selection of a certain type of landscape to design it for example as a protected area or an area of some special interest and management.

Landscape typologies and their practical applications in the CR

Since the year 1992, the Czech legislation is enhanced with a new term "landscape character".

Landscape character represents namely "natural, cultural and historical characteristics of a specified locality or an area protected from activities decreasing its aesthetic and natural value. Interventions into the landscape character, namely location and permission of constructions, may only be pursued with respect to preservation of significant landscape elements, especially protected areas, cultural landscape dominants, harmonic scale and landscape relationships. in order to protect a landscape character with important concentrated aesthetic and natural values a natural park may be established by a nature protection body"

(The Nature Protection Act No. 114/1992).

During last 10 years methods of landscape character assessment and protection have been discussed intensively by the professional community of landscape ecologists, landscape planners, conservationists and architects in the Czech Republic. Several methodological guidelines for LCA have been developed independently representing different professional approaches to this issue. Landscape character assessment is considered as interdisciplinary. Most guidelines are based on landscape typology or regionalisation, i.e. determination and spatial delineation of landscape character types and/or landscape units of the area under investigation. A spatial landscape typisation is expected covering at least 100 sq. km in the scale 1:25 000 or 1:50 000.

Michal (1997) suggested to use existing national landscape typology elaborated by TERPLAN (landscaping evaluation) as well as biogeographical division of the Czech Republic. Biogeographical division proposed as a principal framework for the landscape character assessment of the whole country is a combination of an individual and typological landscape division. There are 90 individual bioregions distinguished within the Czech Republic and 372 types of biochores, which repeatedly occur in various combinations in different bioregions. However biogeographical division represents just one layer of the cultural landscape. In assessment of the landscape character and typology of the present cultural landscape it is necessary to respect also other layers especially cultural land use.

The landscaping assessment elaborated by TERPLAN for the whole territory of the Czech Republic in the scale 1:50 000 purposefully determines basic landscape types A, B, C (A - fully anthropogenised, B - "harmonic" landscape with balanced representation of natural and cultural elements, C - relatively natural). This division is objectively based on land use structure. A certain terminological problem could stem from the name of the landscape type B harmonic

landscape which can lead to incorrect conclusion the natural landscape cannot be harmonic. Within each of these 3 basic landscape types A, B, C there are determined (more or less subjectively) subtypes of increased (+), basic (average - 0) and decreased (-) landscape value. The result is the division of the whole country territory into 9 landscape types. Their spatial distribution is presented in the Table 3.

The presented landscaping assessment provides a basic idea about the division of the country territory, but at the same time it may seem to be too schematic, rough and not covering the specificity and diversity of cultural landscape types. Also true doubts emerge that this schematic division might result in sacrificing vast landscapes, falling in categories of "decreased landscape value" to investment projects. On the contrary, such landscapes do not require priority protection but management to increase ecological stability and improve aesthetic values of the landscape. The landscape character is an attribute of every landscape however not every landscape requires similarly intensive protection. Landscaping assessment elaborated by TERPLAN has been recently used in practice of state nature protection to select so called "nature development areas" as a part of the European Ecological Network (EECONET) on the Czech territory. At the present time the typology is also applied in the process of revision of existing 135 natural parks and proposals for new ones in the country.

Table 3.
Spatial distribution of basic landscape types
in the Czech Republic, in percentage

Landscape value	Total	A	B	C
Increased	30,4	0,4	23,2	6,8
Basic	63,9	27,8	33,1	1,0
Decreased	5,7	3,3	1,6	0,8
Total Czech Republic	100,0	31,5	59,9	8,6

Great diversity of the present cultural landscape types is expressed by the geographical physiognomic typology of the Czech landscape, which is strictly objectively based on the two-layer principle of the cultural landscape (primary natural structure and secondary anthropogenic structure). Typology has been elaborated for the whole country territory on scales 1:500 000, 1:1 million and 1:2 millions (Kolejka, J. et Lipský, Z., 1999). The result may be a good ground for the LCA and the assessment of possible interventions and activities modifying the appearance of the landscape, as it also identifies landscapes with a monofunctional use (like forest, agricultural, industrial, mining landscapes) and those with a multifunctional use - landscape mosaics (for example the forest-agricultural landscape with an increased ratio of water bodies and grasslands). The typology has been elaborated in the

framework of the academic research project and has not been published and applied in practice. This landscape typology of cultural landscape again suffers from considering just land use (landscape "macrostructure") while small-scale landscape segments, which however significantly influence and complete the landscape character like scattered greenery, riparian stands, linear features, little artefacts and constructions in the landscape ("microstructure") failed to be involved into the typology (Lipský, 2000).

Conclusions

Land use and landscape developments in Europe follow international trends. Many regional cultural landscapes have been disappeared because of deep changes in the society, many others are endangered now by the processes of globalization, unification, extensification and intensification.

There is not just one European landscape but there are many continental, national and regional landscape types, each one with its own specific character. Landscape typology is necessary in order to investigate the effects of common agricultural policy, globalisation and other socio-economic processes on transformation of landscapes. Today's regional landscapes have becoming decors, as the old pattern of conditions has been disappearing. The variety of regionally differentiated landscapes is unlikely to increase. Some types of landscapes will disappear (many regional landscape types vanished in the 2nd half of the 20th century in socialist countries, but not only there), others will be sufficiently flexible to survive. In some other areas, but only locally, restoration of the traditional landscapes is being considered for reasons like tourism, ecology, tradition, scenic value or landscape character protection (Wijermans, 1992).

Cultural landscape as a dynamic system is a result of permanently acting landscape forming processes and agents. In the cultural landscape settled and used by man it always is a complex of natural and anthropogenic processes out of which many are of disturbing character and cause bigger or smaller changes in the landscape. Disturbances and changes in the landscape are a natural and intrinsic component of every landscape development - both natural and cultural. Not every change in the landscape like in use of a single patch means a change of the landscape as a whole, its landscape type and character. The assessment of changes in the landscape and of man interventions into the landscape does not mean a precarious refuse but evaluation whether and how these changes harmonise with the general trend of the landscape evolution, how they comply with or counteract natural processes, whether they affect the landscape ecological stability negatively and exceed its carrying capacity, e.t.c. (Lipský, 2000).

European landscape typology and map elaborated by Múcher et al. (2003) represents a right step at the European level. Also in the Czech Republic there is an objective demand for a new, more detailed typology of the present cultural landscape to fulfill the obligations resulting from the European Landscape Convention. Now there is a hope a new typology and regionalisation using different approaches shall be prepared as an important and essential part of the Atlas of the Landscape of the Czech Republic to be published in 2007.

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